

Amendments to the Specification

Please replace paragraph [0055] with the following amended paragraph:

[0055] The ratchet head 44 illustrated in FIGS. 4-6, 7A, 7B, and 23 is of a type operable for selective bi-directional ratchet operation. Accordingly, as shown in FIGS. 4 and 6, the head 44 includes a selection or reversing lever 58 that is movable between two positions to respectively facilitate one-way rotational motion of the drive member 50 in either a clockwise or counterclockwise direction about axis A (FIG. 6). The reversing lever 58 is mounted via a screw 60, shown in FIG. 5, to fix the reversing lever 58 to a pawl that resides within the case 46, 48, as will be described in greater detail below. The reversing lever 58 may be located at a side of the ratchet head opposite the drive member ~~60~~ 50, as illustrated in FIG. 6, however, those of ordinary skill in the art will recognize that structures other than the lever 58 in the may be suitable for affecting a reversing action. As will be understood, non-reversing ratchets mechanisms capable of unidirectional ratchet operation are also possible, as will be described further below in connection with FIGS. 17-21.

Please replace paragraph [0061] with the following amended paragraph:

[0061] In order to prevent rotation of the main gear ~~68~~ 64 in a particular direction, the pawl 68 is movable to at least a first engaged position in which the pawl engages the main gear 64 to prevent rotation of the main gear relative to the case 46, 48. The features of the pawl 68 are best illustrated in FIGS. 9-11. The pawl 68 is shown as having a generally cylindrical body with a generally circular profile. Because pawl 68 is an example of a pawl useful for bi-directional ratchet operation, a portion of the pawl 68 is milled away to form a first catch portion 92 and a second catch portion 94 that are generally symmetrical to each other. Each of the catch portions preferably includes a notch or channel shaped to cooperatively receive one of the teeth 66 of the main gear 64. An arcuate cutout forms a concave surface 96 that extends between the first and second catch portions 92 and 94. The concave surface 96 provides clearance for the main gear 64.

Please replace paragraph [0063] with the following amended paragraph:

[0063] The biasing mechanism ~~46, 48~~ applies a rotational moment to the pawl to provide bias selectively toward either the first engaged position or second engaged position. As a result, the pawl 68 may be deflected away from either the first or second engaged position, clearing away from the teeth 66 of the main gear 64 to provide freewheeling of the main gear in a direction opposite to the selected engagement direction. For example, when the pawl 68 is in the first engaged position so as to prevent the main gear 64 from rotating clockwise, the main gear 64 may be rotated counterclockwise provided that the rotational bias force on the pawl is overcome. It will be appreciated that such operation is provided in the opposite direction when the pawl 68 is in the second engaged position.

Please replace paragraph [0066] with the following amended paragraph:

[0066] As illustrated in FIG. 16, when pawl 68 is in the position shown, the spring 102 is compressed between the lower contact ball ~~100~~ 104 and the upper contact ball 104. Accordingly, the spring 102 urges the upper contact ball ~~104~~ 100 and lower contact ball ~~100~~ 104 linearly away from each other along axis C, in particular urging the upper contact ball ~~104~~ 100 into contact against the ceiling defined by the cover plate 48 and urging the lower contact ball 100 into contact against the first ramped surface 106 on the floor 108 of the main portion 46 of the case. Portions of the contact balls 100, ~~102~~ 104 may extend outwardly from the bore as necessary to remain in contact between the floor and ceiling of the second cavity.

Please replace paragraph [0067] with the following amended paragraph:

[0067] Because the first ramped surface 106 has an inclined shape, the first ramped surface 106 imparts a reaction force to the lower contact ball ~~100~~ 104 that has a force component perpendicular to axis C that is effective to create a moment on the pawl 68. The spring 102 tends to cause the lower contact ball ~~100~~ 104 to move downwardly on the ramp ~~104~~ 106, thereby biasing the pawl to rotate in a corresponding direction toward the first engaged position with respect to the main gear as described in connection with FIG. 7A. It will be

appreciated that when the pawl 68 is rotationally positioned so that the lower contact ball ~~100~~ 104 is in contact with the second ramped surface 110, a similar biasing force will occur in a reversed direction to rotationally bias the pawl toward the second engaged position with respect to the main gear.

Please replace paragraph [0068] with the following amended paragraph:

[0068] Still referring to FIG. 16, the pawl 68 can be deflected away from the first engaged position or the second engaged position, whereby the lower contact ball ~~100~~ 104 moves upwardly along the first ramped surface ~~104~~ 106 or second ramped surface 110 toward the ridge 116, thereby compressing the spring 102. When main gear 64 is turned to freewheel, pawl 68 has a tendency to turn in a direction which forces ball 104 along ramp 110 toward ridge 116. When force is applied to ratchet 44 to again lock main gear 64 against pawl 68, spring 102 forces lower retaining ball 104 against ramp 110 and tends to force it down along ramp 110 toward ramp bottom 114.

Please replace paragraph [0069] with the following amended paragraph:

[0069] Other ramp configurations may also be used as situations and use requirements dictate. For example, the present invention also includes embodiments wherein one or more ramped surfaces are provided on the ceiling of the cavity. A cover plate ~~148~~ 248 is illustrated in FIG. 22 that has first and second ramped surfaces 206, 210, respectively. The first and second ramped surfaces 206, 210 in the cover plate are configured to contact against the upper contact ball ~~104~~ 100 of the biasing mechanism and are thereby effective to impart a rotational bias to the pawl in a manner similar to that described in connection to FIG. 16 with the ramped surfaces formed at the floor. The ramped surfaces 206, 210 in the cover plate 248 may be used either as an alternative to, or in combination with, the ramped surfaces 106, 110 in the main portion 46 of the case. Combined use of like-shaped ramps results in a doubling of the bias force action that would be yielded by a ramped surface at only the floor or ceiling.

Please replace paragraph [0070] with the following amended paragraph:

[0070] To facilitate selective reversal of the ratchet direction in the bi-directional embodiment, the pawl 68 is configured to be securable to the reversing lever 58 (FIGS. 5, 6). The pawl ~~58~~ 68 illustrated in FIGS. 10-11 includes an integral extension 70 that extends through the case so that the reversing lever 58 can be mounted thereon. The extension 70 has a hex-shaped nub 74 that is cooperatively received by the lever 58. The lever 58 is secured to the pawl extension 70 by a mounting screw 60 threaded into an aperture 72 in the extension 70. It will be understood that the extension and lever described herein are exemplary, and that other structures may be possible.

Please replace paragraph [0073] with the following amended paragraph:

[0073] The assembly of the ratchet head 44 is relatively uncomplicated. The main gear 64 is placed into the first cavity 76 of the main portion 46 of the case, and the pawl 68 is inserted into ~~first~~ second cavity 78 so that the extension 70 extends through case aperture 82. The reversing lever 58 is then mounted to nub 74 with lever screw 60. The lower contact ball 104 is then inserted into the bore 98 in the pawl 68, followed by the spring 102, which is also placed in the bore, and the upper contact ball ~~104~~ 100, which is placed on top of the spring 102. The cover 48 is then placed in position so that the drive member 50 extends through the aperture 118. Screws 52 are then threaded into holes 84 to secure the cover plate 48 in place. When the cover plate 48 is secured in place, the spring 102 is compressed between the upper and lower contact balls 100, 104.